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ABSTRACT

Compiled to illustrate that teachers in New York state--in all curricular areas and at all grade levels--are working to improve students' ability to think logically and creatively, this document outlines programs on thinking skills across the curriculum, from kindergarten through grade 12. The document begins with a chart listing program titles, grade levels, target populations, disciplinary focus, levels of implementation, school districts, and page number of this document on which each program is described. Individual descriptions include information on program objectives and implementation, as well as the name and address of a contact person and a brief program description. (EL)

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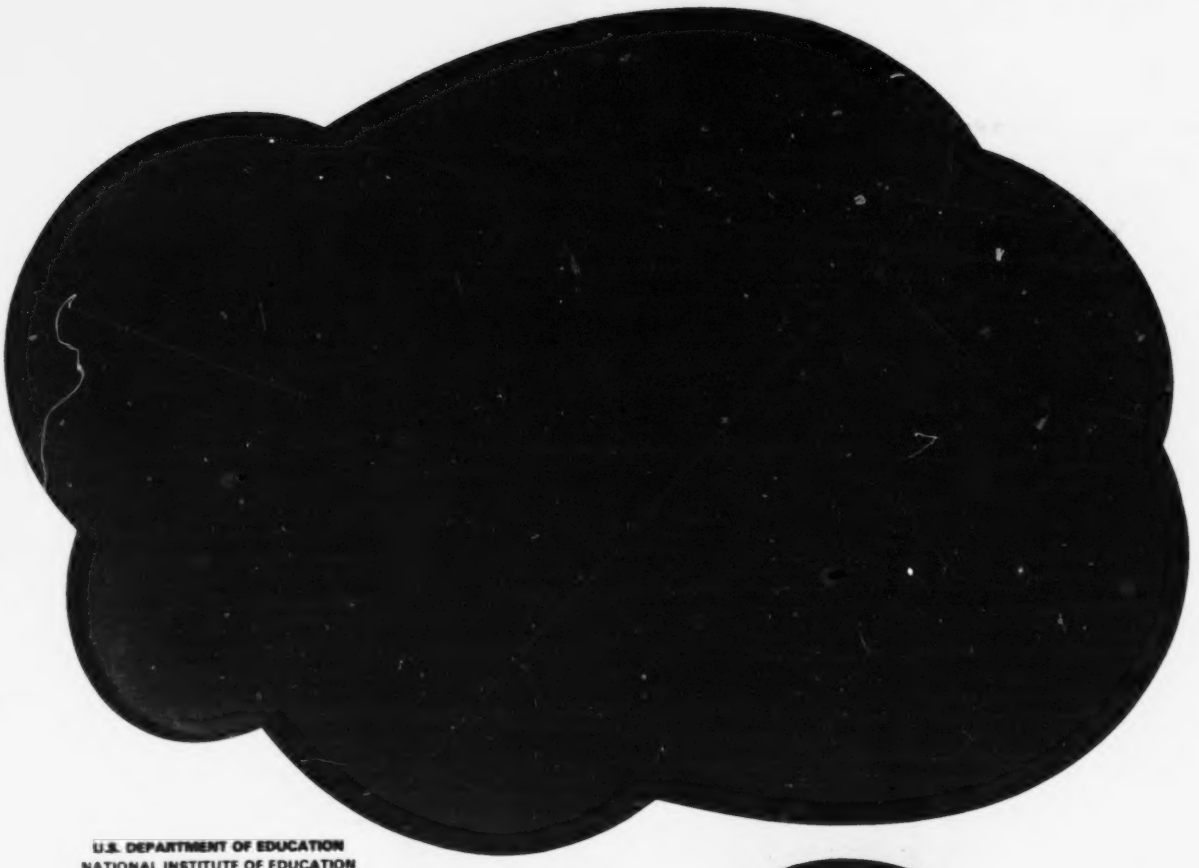

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A COMPENDIUM OF THINKING SKILLS PRACTICES K-12

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ASSISTANT COMMISSIONER FOR GENERAL EDUCATION

October 1985

To: District Superintendents and Superintendents of Public and Nonpublic Schools

From: Maria Ramirez

Subject: Thinking Skills Across the Curriculum: A Compendium

One of the goals in the Regents Action Plan is to improve students' abilities to think. Specifically, the Board of Regents calls for action to "ensure that all students are learning to think logically and creatively and to apply reasoning to issues and problems in all subjects and at all grade levels." The Regents further define aspects of learning that are fundamental to improving the quality of all instruction.

This commitment to thinking skills across the curriculum led the State Education Department's Office of General Education to undertake an Acquisitions Project to identify current programs in schools designed to foster thinking skills in all areas of the curriculum, K-12. In May of 1985 requests for information about such programs were sent to all public school districts and nonpublic schools in New York State.

With the cooperation of District Superintendents and Superintendents of Nonpublic Schools representatives from the Boards of Cooperative Educational Services organized and conducted the collection, review and screening of the programs submitted for consideration using ten Regional Review Committees. Representatives from nonpublic schools participated on each of the Regional Review Committees. Each large city was also involved.

The programs screened by the Regional Review Committee were then sent to the State Education Department where they were again reviewed and approved for inclusion in this publication by a committee of subject area specialists.

The programs in this publication are but a few of those submitted. There are, undoubtedly, many more excellent programs and practices operating in schools across the State. This collection was put together to illustrate that thinking skills are receiving attention in school programs throughout New York State and that teachers in all areas of the curriculum and at all grade levels are working to improve students' abilities to think logically and creatively.

We wish to thank District Superintendents, their staffs, the school districts that submitted projects for consideration, the people who reviewed and screened the materials, and those individuals in schools working to improve students' abilities to think logically and creatively. Particular thanks go to Judith Wooster, Associate in the Bureau of Social Studies Education, who planned and coordinated the Thinking Skills across the Curriculum Acquisition Project and the preparation of this document and to David Payton and Kim Thomas who assisted her.

TO THE READER: HOW TO USE THIS PUBLICATION

The grid on pages v to xi provides a table of contents of the sample of programs and practices currently being used in schools and districts in New York State to foster Thinking Skills Across the Curriculum that are contained in this publication. Scan the columns to locate programs related to a specific interest. Refer to the pages indicated to obtain more information about each program.

The programs included were self-nominated. They were reviewed and selected on the basis of a paper review. For additional information about a program or practice, please write to the contact person whose name appears in the upper right of each page.

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PROGRAM TITLE	GRADE LEVEL(S)	TARGET POPULATION	DISCIPLINARY FOCUS	LEVEL OF IMPLEMENTATION	SCHOOL DISTRICT	PAGE
10th Grade Academy Interdisciplinary	10	General	Interdisciplinary	Students in Regents level courses who elect program	East Islip Union Free	1
A Cooperative Learning Approach to Teaching Thinking Through Content	6	General	Interdisciplinary	Single classroom	Hempstead Union Free	2
Academically Gifted Program	3-11	Gifted	Interdisciplinary	Districtwide	Mineola Union Free	3
Adapting Available Thinking Skills Program For Classroom Use	5-6	General Gifted	Interdisciplinary Resource Room	Grades 5 and 6	Middletown City	4
Approach - A Strategy For Junior High Reading	7-8	Remedial	Interdisciplinary	Districtwide	Rochester City	5
Challenger Program	4-6	Gifted	Interdisciplinary	Districtwide	Bethpage Union Free	6
Computeach - LOGO	1-6	General Gifted Remedial Handicapped	Interdisciplinary	Districtwide	East Ramapo Central	7
Computer Applications and Critical Thinking	3-6	Gifted	Interdisciplinary	Grades 3-6 in 2 buildings	Ilion Central	8
Conflict Resolution/ Writing Skills: An Integrated Development Plan	4	General	Interdisciplinary	Districtwide	Hilton Central	9
Critical Reading for Able Readers	3-5	General Gifted	Single discipline	Selected classrooms; Gifted program	Hilton Central	10

PROGRAM TITLE	GRADE LEVEL(S)	TARGET POPULATION	DISCIPLINARY FOCUS	LEVEL OF IMPLEMENTATION	SCHOOL DISTRICT	PAGE
Critical Thinking & Writing in American Studies	11-12	General	Single discipline (Social Studies)	Single department	Niskayuna Central	11
Critical Thinking: Grade 12 Elective	12	General	Single discipline (English)	Single classroom	Scotia-Glenville Central	12
DELPHI	4-6	Gifted	Interdisciplinary	Districtwide	Liverpool Central	13
Decision Making Activities in the Social Studies for Grades Four, Five and Six	4-6	General Gifted	Single discipline	Single classroom	Wappingers Central	14
Differentiated Units for the Gifted and Talented	1-12	Gifted	Interdisciplinary	Regionally	Dutchess County BOCES	15
Digging into Katonah's History	4	General	Interdisciplinary	Districtwide	Katonah-Lewisboro Union Free	16
Direct Instruction of Thinking Skills	1-6	General Gifted Handicapped	Interdisciplinary	Single school building	New York City District 24 (Queens)	17
E.A.G.L.E.T. (Education for the Advancement of the Gift of Leadership through Effective Training)	10-12	Gifted	Interdisciplinary	Single classroom	Middletown City	18
Elementary Academic Enrichment Program	K-6	Academically able	Interdisciplinary	Districtwide	Islip Union Free	19
Elementary Gifted and Talented Program	K-6	Gifted	Interdisciplinary	Districtwide	Center Moriches Union Free	20

PROGRAM TITLE	GRADE LEVEL(S)	TARGET POPULATION	DISCIPLINARY FOCUS	LEVEL OF IMPLEMENTATION	SCHOOL DISTRICT	PAGE
The Elementary and Secondary Sage Program	2-11	Gifted	Interdisciplinary	Districtwide	Elmira City	21
Enhancing Thinking Skills via LOGO	1-3	General	Interdisciplinary	Districtwide	Mineola Union Free	22
Enrichment (Primary)	3	Gifted	Interdisciplinary	Districtwide	South Country Central	23
Future Problem Solving	2-10	General Gifted	Interdisciplinary	Districtwide	Katonah-Lewisboro Union Free	24
G.I.F.T.E.D.	1-6	Gifted	Interdisciplinary	Grades 1-6 in two school buildings	Oyster Bay-East Norwich Central	25
GATE: Gifted and Talented Education	1-6	Gifted	Interdisciplinary	Districtwide	East Ramapo Central	26
General Studies Program	7-8	General	Interdisciplinary	Single school building	Plainedge Union Free	27
Humanities Honors	11-12	General Gifted	Interdisciplinary	Single classroom	Mount Saint Mary Academy	28
Instrumental Enrichment Program	4-9	General Gifted Remedial Handicapped	Interdisciplinary	Citywide program (38 schools)	New York City Board of Education	29
Integration of Social Studies Content and Problem Solving Skills	6-8	General	Single discipline (Social Studies)	Single department	Niskayuna Central District	30

PROGRAM TITLE	GRADE LEVEL(S)	TARGET POPULATION	DISCIPLINARY FOCUS	LEVEL OF IMPLEMENTATION	SCHOOL DISTRICT	PAGE
Inquiry Demonstration Project	9-12	General Gifted Remedial	Interdisciplinary	Classrooms in: Bronx High School of Science Bowne High School Erasmus Hall High School Kennedy High School Roosevelt High School Satellite High School Washington High School (West Side) New York City	New York City Multi-district (Citywide)	31
Invaders of the Mind	4-6	General Gifted	Interdisciplinary	Districtwide	Connetquot Central	32
Invention Convention	K-12	General Gifted Handicapped	Interdisciplinary	Districtwide	Buffalo City	33
J.H.S. Gifted Program - "Decision Making"	7-9	General Gifted	Interdisciplinary	Single classroom	Connetquot Central	34
Learning to Learn: Parents & Children Together	7-12 students & their parents	General Gifted	Interdisciplinary	Evening program involving 2 neighboring districts	Ilion Central Herkimer Central	35
The Literature Club	4-6	General Gifted	Interdisciplinary	Single school building	Syracuse City	36
Mastery Learning in Elementary and Junior High Schools	3-9	General Gifted Remedial Handicapped	Interdisciplinary	Three (3) community school districts	New York City Board of Education	37
Mathematics K-8	K-8	General	Single discipline (Mathematics)	Districtwide	Yonkers City	38

PROGRAM TITLE	GRADE LEVEL(S)	TARGET POPULATION	DISCIPLINARY FOCUS	LEVEL OF IMPLEMENTATION	SCHOOL DISTRICT	PAGE
Middle School Special Projects Program	6-8	General	Interdisciplinary	Single school building	Niskayuna Central	39
Model for Differentiating Curr. in Regular Classroom	2-6	General Gifted	Interdisciplinary	Single classrooms in three elementary schools	Greenburgh Central	40
The P.S. 126 Process: Steps to Clear Thinking One to Six	K 3-6	General Gifted Remedial Handicapped	Interdisciplinary	Single school building	New York City District 9 (Bronx)	41
Program for the Gifted	K-9	Gifted	Interdisciplinary	Public Schools 114, 115, 208 272, 276, 279 and JHS 68	New York City District 18 (Brooklyn)	42
Project Beyond	K-6	Gifted	Interdisciplinary	Districtwide	Syosset Central	43
Promoting Creative Thinking Skills in Kindergarten Children	K	General	Interdisciplinary	Early Childhood Center	Lawrence Union Free	44
The Reasoning Skills Approach to Problem Solving - A "Heads Off" "Hands-On" Methodology for Infusing Thinking Skills Across the Curriculum	K-12	General Gifted Remedial	Interdisciplinary	Single school building	New York City District 20 (Brooklyn)	45
Reliving Social Studies Through Microfilm	6	General	Interdisciplinary Social studies Language arts	Single Classroom	Rome City	46

PROGRAM TITLE	GRADE LEVEL(S)	TARGET POPULATION	DISCIPLINARY FOCUS	LEVEL OF IMPLEMENTATION	SCHOOL DISTRICT	PAGE
Science: Mankind's Continuing Search for Solutions	7-8	Gifted	Interdisciplinary	Single classroom	Seaford Union Free	47
See Through the Lens	4	General	Interdisciplinary	Three classrooms	Hempstead Union Free	48
Special Projects Program, Elementary Level	1-5	Gifted	Interdisciplinary	Districtwide	Niskayuna Central	49
SPICE: A Problem Solving Approach	K-6	General	Interdisciplinary	Districtwide	Rochester City	50
Strategic Reasoning	9	Remedial	Single discipline (English)	Single classroom	New York City Benjamin Cardozo (Queens)	51
TACS - Thinking and Comprehension	1-8	Remedial Handicapped	Single discipline (Reading)	Single classroom	Yonkers City	52
Talents Unlimited	K-12	Gifted General Remedial Handicapped	Interdisciplinary	Nationally - 4,500 schools	Cayuga-Onondaga BOCES	53
Teaching Thinking Skills to Handicapped Junior High School Students	7-8	Handicapped	Interdisciplinary	Single classroom	Spackenkill Union Free	54
Thinking Skills Used to Understand Citizenship	3-4	Gifted	Interdisciplinary	Single classroom	Diocese of Syracuse	55
Units on Visual Literacy: Critical Thinking in Art and Advertising	3-6	Gifted	Interdisciplinary	Grades 3-6 in two buildings	Ilion Central	56

	PROGRAM TITLE	GRADE LEVEL(S)	TARGET POPULATION	DISCIPLINARY FOCUS	LEVEL OF IMPLEMENTATION	SCHOOL DISTRICT	PAGE
	The Use of Contracts As An Effective Teaching Technique	6	General	Single discipline (Social studies)	Single school building	Diocese of Rockville Centre	57
	Using Your Noggin	7	General Handicapped	Interdisciplinary	Single school building	East Islip Union Free	58
	Utilizing Reasoning/ Thinking in Science	7-12	General Gifted Remedial	Single discipline (Science)	Districtwide	Yonkers City	59
	Young Inventors Workshop	K-6	K-6 teachers	Single discipline (Science)	Teacher Center Workshop	New York City Teacher Centers Consortium	60

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Title:

10th GRADE
ACADEMY/INTERDISCIPLINARY

School District:

East Islip Union Free

Grade Level(s):

10

Target Population:

General

Contact Person:

Dr. Regina T. White
Academy Director
East Islip Junior High School
Islip Terrace, New York 11752

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Students in Regents level courses who elect program

Program Description:

This is a 10th grade interdisciplinary program that draws on students' learning styles and cognitive levels to promote achievement through use of critical thinking skills. Students are tested with the Learning Style Inventory (Dunn, Dunn and Price) and the Arlin Test of Reasoning. Results are used by teachers and students for classwork and homework.

The goal is to raise student achievement by making students and teachers aware of learning styles in the classroom and at home. Teachers, aware of students' cognitive levels, can structure questions enabling students to analyze material.

Title:

A COOPERATIVE LEARNING APPROACH TO TEACHING THINKING THROUGH CONTENT

School District:

Hempstead Union Free

Grade Level(s):

6

Target Population:

General

Contact Person:

Sari Gobetz
Classroom teacher
Prospect School
265 Peninsula Boulevard
Hempstead, New York 11550

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classroom

Program Description:

After each one of nine critical thinking skills is introduced, students are required to use content information to generate written material that demonstrates understanding of the skill. These skills include recognizing opinionated writing, generalizations, author's purpose and point of view, exaggeration and understatement, assumptions, problems and solutions; differentiating between facts and opinions; and synthesizing information.

The program's purposes are to combine the teaching of critical thinking with the teaching of content material and to develop reading and writing skills in a setting of cooperative learning.

Title:

ACADEMICALLY GIFTED PROGRAM

School District:

Mineola Union Free

Grade Level(s):

3-11

Target Population:

Gifted

Contact Person:

Mark Barth
Administrator of Gifted Program
200 Emory Road
Mineola, New York 11501

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The aim of this program is to enable gifted students to function more effectively in their everyday lives by systematically applying learned thinking skills. These skills include convergent and divergent approaches to problem solving and analyzing, as well as relational and reasoning skills.

In grades 3, 4 and 5, participating students meet at a central location one day a week. During this time teachers work with the students to become aware of, define and recognize their thinking and communicating skills. In grades 6, 7 and 8, the students are removed from their regular classes 20% of their time in order to work on specially developed enriching units of study which teach them how to transfer and apply the previously learned processes into their school and daily lives.

In grades 9 and 10, students in this program are scheduled into Academically Gifted classes in the four major subject areas. In grade 11, Academically Gifted students participate in a mentorship program where they choose a topic or area of interest and participate in a year-long, independent, student project under the tutelage of an expert in the field.

Title:

ADAPTING AVAILABLE THINKING SKILLS PROGRAM FOR CLASSROOM USE

School District:

Middletown City

Grade Level(s):

5-6

Target Population:

General
Gifted

Contact Person:

Barbara Davis
John W. Chorley School
50 Roosevelt Avenue
Middletown, New York 10940

Disciplinary Focus:

Interdisciplinary
Resource room

Level of Implementation:

Districtwide

Program Description:

Using "CoRT Thinking" developed by de Bono and "Decision Making" developed by Sidley & Ziegler, staff expand the regular social studies and science curricula to enable students to understand the relevance of the factual material and to make real-life decisions based on acquired knowledge.

The goals of this program are to enable students to relate information acquired in the curriculum to their own lives, to give students the tools to make individual and group decisions based on actual knowledge, and to prevent curriculum material from being viewed as isolated bits of information.

Title:

APPROACH - A STRATEGY FOR JUNIOR HIGH READING

School District:

Rochester City

Grade Level(s):

7-8

Target Population:

Remedial

Contact Person:

Grace Cincolta
Franklin Senior High School
950 Norton Street
Rochester, New York 14621

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

APPROACH is an acronym used to identify a sequence of steps that provides the reading teacher a framework for developing reading skills and provides the student with a consistent process in approaching content area subjects. APPROACH is a seven-step process which guides the student through a sequential, organized method of integrating and applying reading skills. The steps are Assignment, Plan, Preview, Read, Outline, Answer and Check.

The program's intent is to provide students with a consistent, sequential problem solving strategy that teaches them to make appropriate responses at each step of the learning process.

Title:

CHALLENGER PROGRAM

School District:

Bethpage Union Free

Grade Level(s):

4-6

Target Population:

Gifted

Contact Person:

Dolores Hartmann
Teacher of Gifted and Talented
Central Boulevard School
Bethpage, New York 11714

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The program is based on the use of higher-level thinking skills as outlined in Bloom's Taxonomy as well as on Renzulli's Enrichment Triad. The program uses learning centers, simulations, philosophical inquiry and problem solving materials with students who, with parental agreement, join a challenger class. The Ross Test of Higher Cognitive Processes is administered at the beginning and end of each school year. Class trips and guest speakers occur as time and budget are available.

The program encourages students to become independent learners and producers. Activities are provided to elicit and develop cognitive, creative and affective abilities. These activities result in student-designed games, writings, skits, plays, tapes and filmstrips.

Title:

COMPUTEACH - LOGO

School District:

East Ramapo Central

Grade Level(s):

1-6

Target Population:

General
Gifted
Remedial
Handicapped

Contact Person:

Diane Gess
Coordinator of Special Projects
Office for Curriculum/Elementary
461 Viola Road
Spring Valley, New York 10977

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The LOGO strand of the Computeach (Computer Literacy) curriculum has been organized to provide classroom teachers with a comprehensive scope of LOGO activities as they meet both the mathematics and thinking skills objectives identified in the more than 200-page guide. Each objective has associated with it a teaching page and a reproducible student activity page.

Computeach/LOGO gives students a chance to "explore" advanced mathematics concepts; provides an opportunity for students to learn programming skills through discovery with conclusions delivered through thinking and experimentation; helps students develop clear descriptions of tasks; allows for pacing according to students' needs; centers on process rather than product; and deals with a range of thinking skills.

Title:

COMPUTER APPLICATIONS AND CRITICAL THINKING

School District:

Ilion Central

Grade Level(s):

3-6

Target Population:

Gifted

Contact Person:

Grace Osborne
Teacher/Coordinator
Enrichment Learning Program
Ilion Central School
Weber Avenue
Ilion, New York 13357

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Grades 3-6 in two buildings

Program Description:

Students are introduced to computers through a series of critical thinking activities. Through a comparison of calculators and computers, minis and micros, the definition of a robot (Is a remote-controlled vehicle a robot? Is Big Trak? etc.) and hands-on work with these items, students define terms and procedures. Using simple BASIC programming techniques taught in these sessions (print, run, input), students use language arts to create a story about themselves and reduce it (in a mad-lib format) so that they program an interactive story for another child to use. This requires thinking skills such as categorizing, hypothesizing, testing and debugging. Students then write a manual for their program, package it and "sell" it for classroom use. Students also use sampling techniques, do surveys, create form letters and employ data bases using adult and child-oriented software centered on a theme.

The goals and objectives are to have students learn to think about technology; to bring technology to discussion levels beyond the mathematics level; to have students integrate knowledge and to see computers as tools for learning.

Title:

CONFLICT RESOLUTION/ WRITING SKILLS: AN INTEGRATED DEVELOPMENT PLAN

School District:

Hilton Central

Grade Level(s):

4

Target Population:

General

Contact Person:

Sandra H. Norgaard
Teacher
West Ave. Elementary School
225 West Avenue
Hilton, New York 14468

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide in Introduction to Law and Government section of Social Studies Curriculum

Program Description:

This program enables elementary students simultaneously to develop skills of writing and to learn the content of conflict resolution through an introduction to laws, rights and responsibilities studies. The form for writing practice is ILA. Training classroom teachers in ILA writing techniques is necessary to implement this program as well as background or a course on conflict resolution.

Title:

CRITICAL READING FOR ABLE READERS

School District:

Hilton Central

Grade Level(s):

3-5

Target Population:

General
Gifted

Contact Person:

Kathleen A. Brickell
REACH Program Coordinating Teacher
West Avenue Elementary School
225 West Avenue
Hilton, New York 14468

Disciplinary Focus:

Single discipline

Level of Implementation:

Selected classrooms; gifted program

Program Description:

This course is designed to provide the classroom teacher with a supplemental reading program for high average and gifted students in grades 3-5. Using shared inquiry discussion techniques as well as an interpretive process approach to analyzing literature, students are involved in critical reading skills designed to improve higher-level thinking.

Students analyze selected literature within the following skills areas: cause and effect, prediction, author's purpose and style, inference, use of detail, imagery, and symbolism. In addition, critical questioning, group discussion skills and tolerance for ambiguity are developed.

Title:

CRITICAL THINKING &
WRITING IN AMERICAN STUDIES

School District:

Niskayuna Central

Grade Level(s):

11-12

Target Population:

General

Contact Person:

Richard A. Evans
Teacher
Niskayuna High School
1626 Balltown Road
Schenectady, New York 12309

Disciplinary Focus:

Single discipline
(Social Studies)

Level of Implementation:

Single department

Program Description:

This is a unit on American Constitutional law including opinion summaries concerning the commerce clause, the Fourteenth Amendment (equal protection), and the First Amendment (religion, speech and press). An opinion format and tests for each portion are provided.

The teacher is not trying to make lawyers out of students. The materials are tools to develop critical thinking and writing. Students apply precedent(s) to the cases and prepare written opinions. They also practice oral questioning to probe for additional relevant facts.

Title:

CRITICAL THINKING:
GRADE 12 ELECTIVE

School District:

Scotia-Glenville Central

Grade Level(s):

12

Target Population:

General

Contact Person:

Jean B. Rose, Teacher
Mary L. Hardt, Academic Head
for English
Scotia-Glenville High School
Scotia, New York 12302

Disciplinary Focus:

Single discipline
(English)

Level of Implementation:

Single classroom

Program Description:

This is a ten-week senior English elective. The focus of the critical thinking course is to improve the students' critical thinking and problem solving skills. The detective story serves as the literary strand. The students apply Dr. E. Paul Torrance's creative problem solving techniques to problems that perhaps they will have to face in the future.

Objectives include improving critical thinking skills, problem solving skills, and deductive and inductive reasoning through literature study.

Title:

DELPHI

School District:

Liverpool Central

Grade Level(s):

4-6

Target Population:

Gifted

Contact Person:

Greg Trombly
Teacher/Coordinator
Soule Road Elementary
Soule Road
Liverpool, New York 13090

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The DELPHI program provides experiences for gifted 4th, 5th and 6th graders which extend and expand opportunities for investigation and learning beyond those which are possible in the regular school program. Emphasis is placed upon students developing and demonstrating creative thinking skills and applying logic and reasoning processes to solve problems. The program involves the use of flexible classroom space, computers and reference materials.

Students develop and demonstrate abilities in fluency, flexibility, originality and elaboration (the creative process) and are led to apply logic and reasoning processes to solve problems. Students participate in one pullout session per week. A Parent Advisory Committee and parent conference on an as-needed basis are designed to ensure support and encouragement of students.

Title:

DECISION MAKING ACTIVITIES IN THE SOCIAL STUDIES FOR GRADES FOUR, FIVE AND SIX

School District:

Wappingers Central

Grade Level(s):

4-6

Target Population:

General
Gifted

Contact Person:

Linnea Ranucci
Elementary teacher
Fishkill Elementary School
Fishkill, New York 12524

Disciplinary Focus:

Single discipline

Level of Implementation:

Single classroom

Program Description:

This project consists of 120 lessons on decision making skills involving critical and creative thinking and creative problem solving. The content of these lessons is based on the 1982 Social Studies Curriculum recommended by the New York State Education Department for grades 4, 5, 6. Lesson formats involving role playing, social dilemmas, simulations, classical and contemporary research, brainstorming and creative problem solving are included.

The program's purpose is to provide opportunities in the regular classroom for students to develop their decision making skills so that they become critical and creative thinkers and problem solvers.

Title:

DIFFERENTIATED UNITS FOR THE GIFTED AND TALENTED

School District:

Dutchess County BOCES

Grade Level(s):

1-12

Target Population:

Gifted

Contact Person:

Laura Shapiro
Specialist for Gifted Education
Dutchess County BOCES
Poughkeepsie, New York 12601

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Regionally

Program Description:

This program is a series of twenty-three units developed as part of the 1984 Cooperative Summer Curriculum Writing Project of Dutchess County BOCES. Unit titles range from "Survival on Another Planet" through "Techniques of Persuasion" and "Problems of Contemporary Indians" to "Someday You'll Be Old" and "Genetic Engineering." Thinking skills are incorporated into each unit with culminating activities emphasizing higher order skills.

Objectives of the program are to provide teachers with sample units which incorporate the principles of differentiated curriculum developed in the project; to provide a unit format which integrates content, process and product; to provide units which can be implemented in a variety of classroom settings and which extend the basic curriculum.

Title:

DIGGING INTO
KATONAH'S HISTORY

School District:

Katonah-Lewisboro Union Free

Grade Level(s):

4

Target Population:

General
Gifted

Contact Person:

Richard L. Kurtzberg
Sleuth Coordinator
Katonah-Lewisboro Schools
Katonah, New York 10536

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

To study local history, the 4th grades divided into five teams. Each team took a period of history, analyzed its cultural universals, and created or obtained artifacts to represent that period. These were exchanged, and groups deduced the culture, time, etc. from the artifacts.

The objective is to have a 4th grader study local history from the viewpoint of an archeologist to gain insight into what makes a culture and how it changes. The program is designed to improve skills of brainstorming, analysis, synthesis, evaluation.

Title:

DIRECT INSTRUCTION
OF THINKING SKILLS

School District:

New York City
District 24 (Queens)

Grade Level(s):

1-6

Target Population:

General
Gifted
Handicapped

Contact Person:

John Iorio
Principal
PS 128 Q
69-26 65 Drive
Middle Village, New York 11379

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single school building

Program Description:

The program at P.S. 128 includes multi-dimensional strategies in an holistic framework of sequential instruction. "Philosophy for Children", developed by Matthew Lipman, is the core of the program and focuses on the act or nature of thinking. Together with "Talents Unlimited", a classroom application of "Taylor's "Multiple Talent Approach to Teaching", and Torrance's "Future Problem Solving" model, the "Philosophy for Children" program provides the structure for a spiral and integrated curriculum of direct instruction in thinking skills.

The open-ended nature of these programs allows them to be used successfully with special education children, as well as average and gifted students.

5772-ee

Title:

E.A.G.L.E.T.
(Education for the Advancement of the Gift of Leadership through Effective Training)

School District:

Middletown City

Grade Level(s):

10-12

Target Population:

Gifted

Contact Person:

Patricia M. Papini
English Chairman
Leadership Coordinator
Middletown High School
Middletown, New York 10940

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classroom

Program Description:

EAGLET is a project designed to consciously nurture the gift of leadership in high school students by creating constructive opportunities which offer an awareness of leadership responsibilities and a chance to develop the skills necessary to meet these responsibilities.

To achieve the goal of responsible leadership, the following objectives are included: understanding of self with respect to necessary versus present characteristics and skills of leadership, developing individual and team skills in problem solving and creative thinking, and effecting group planning and implementation.

EAGLET is designed for high school students in grades 10-12 who have demonstrated leadership potential and abilities.

Title:

ELEMENTARY ACADEMIC ENRICHMENT PROGRAM

School District:

Islip Union Free

Grade Level(s):

K-6

Target Population:

Academically able

Contact Person:

Marjorie Minicozzi
Principal, Elementary School
Smith Avenue
Islip, New York 11751

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

This program begins at the Kindergarten level with an advanced reading program and an introduction to computer programming. During twice-weekly periods, students in grades 1-4 use a variety of computer programs at increasingly complex levels to develop their programming and thinking skills. Second, third and fourth graders are exposed to conversational French for five to ten minutes during each session. The program expands in fifth and sixth grades as students form into a thinking skills group working with science materials and a larger group working on enrichment topics and activities such as political science and elections, programming, ecology and government, and mathematics topics. Brief lessons in conversational Spanish are included in each session at this level.

The objectives of this program are to increase facility to think critically during interaction with educational materials and to develop greater fluency in verbal communication.

Title:

ELEMENTARY GIFTED
AND TALENTED PROGRAM

School District:

Center Moriches Union Free

Grade Level(s):

K-6

Target Population:

Gifted

Contact Person:

Dr. Marlene Berman
Elementary Principal
Center Moriches Elementary School
511 Main Street
Center Moriches, New York 11934

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The curriculum of the elementary gifted and talented program emphasizes the development of critical thinking skills. The acquisition of the content material is incidental, and all lesson objectives focus on one or more of the thinking skills. Students meet in small groups twice a week for an hour each time. The educational setting is individualized, process-centered and activity-oriented.

The goal of the program is to offer identified students a differentiated educational program that will provide them with essential thinking skills so that, in combination with the content curriculum offered in their regular classroom, these students will develop and achieve their intellectual potential and have an academic environment that has both nurtured and challenged them. Students with exceptional general intellectual ability in grades K-6 are included in the program. Students are selected on the basis of group or individual IQ scores and standardized test scores in reading and mathematics.

Resources required for this program include a teacher who has a background in gifted and talented education, a classroom for instruction and some commercial materials that develop thinking skills.

Title:

THE ELEMENTARY AND SECONDARY SAGE PROGRAM

School District:

Elmira City

Grade Level(s):

2-11

Target Population:

Gifted

Contact Person:

Mary Mann, Barbara Wood
and Kathryn Holden
Elmira City School District
951 Hoffman Street
Elmira, New York 14905

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The S.A.G.E. Program is presented to students through interdisciplinary units of study that are based on a hierarchical sequence of processes and skills. Skills are taught in isolation and then applied to a broad range of content areas. Second-grade students participate in a half day per week program that involves small groups working with one teacher. Students in grades three through six participate in a one day per week team teaching program. Gifted students in grades 7-11 participate in team teaching English and Social Studies courses daily that include an additional lab period 1-2 times each week. Instructional units are developed that use and extend the New York State curriculum to address sequentially organized higher-level thinking skills.

The long range goal of the Elmira S.A.G.E. Program is to prepare and assist the student to assume a position as an independent, creative producer and decisionmaker in an increasingly complex, changing and competitive world.

The Elmira S.A.G.E. Program is designed to serve the needs of the district's academically gifted students including gifted underachievers as well as those students who demonstrate high achievement. Approximately 6-8% of district students are identified for S.A.G.E.

Title:

ENHANCING THINKING SKILLS VIA LOGO

School District:

Mineola Union Free

Grade Level(s):

1-3

Target Population:

General

Contact Person:

Dr. Ari-Zev Anolic
Director of Computer Education
200 Emory Road
Mineola, New York 11501

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

This program is designed to enhance students' thinking skills using the computer language LOGO as a tool. Students are exposed to whole class lessons with a trained computer teacher. This whole class lesson is preceded by in-class preparation by the classroom teacher, in various subject areas, for the concepts to be presented in the whole class lessons. Students then return for two follow-up sessions working on a series of spiral (self-paced) project sheets. Focus is not on programming, but on developing process skills such as analyzing, evaluating, planning, revising, etc.

The goals of the program are to create an environment where students are comfortable to question and explore, to train students to systematically break problems down into manageable components, to work with and turn to peers for help and advice, and to encourage the development and use of process skills in a "Guided Discovery Environment."

Title:

ENRICHMENT (PRIMARY)

School District:

South Country Central

Grade Level(s):

3

Target Population:

Gifted

Contact Person:

Tina Steiner
Enrichment Teacher
Kreamer Street School
Kreamer Street
Bellport, New York 11713

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

In addition to mind benders, figural analogies, critical problem solving activities, poetry and creative writing tasks, a unit or thematic approach is employed. Three major units are covered: "A Journey Into My Inner Self"; a multidisciplinary unit on "Futuristics"; and, lastly, a unit on "Asking Questions, Finding Answers".

The goals and objectives of the program include consistent emphasis on higher-level thought processes and exposure to high-level complex content. The students are given opportunities for independent study using professional methodology.

Title:

FUTURE PROBLEM SOLVING

School District:

Katonah-Lewisboro Union Free

Grade Level(s):

2-10

Target Population:

General
Gifted

Contact Person:

Richard L. Kurtzberg
Sleuth Coordinator
Katonah-Lewisboro Schools
Katonah, New York 10536

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The Katonah-Lewisboro district has used Future Problem Solving in national competition and as an enrichment device for groups of advanced students for the last five years. The FPS process involves switching back and forth from convergent to divergent thinking and provides training in higher-level thinking.

The program offers an appropriate outlet for bright, creative, motivated students. It serves to train students in divergent thinking, as well as analysis and synthesis, and to improve writing skills, group interaction skills and organization skills.

Title:

G.I.F.T.E.D.

School District:

Oyster Bay-East Norwich Central

Grade Level(s):

1-6

Target Population:

Gifted

Contact Person:

Richard Siegelman
Teacher of the Gifted
108 Morton Boulevard
Plainview, New York 11803

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Grades 1-6 in two school buildings

Program Description:

The gifted program "pulls out" identified children in grade-level groups for 2-5 periods a week. Activities include computer problem-solving programs, simulations and interactive mysteries; analysis of magic tricks; the "Productive Thinking Program"; law cases; CoRT thinking lessons; mathematics leagues; Language, Science and Social Studies Olympiads; etc.

Objectives include encouraging students to value thinking, enjoy figuring things out, think before they speak or act, persevere in their thinking, recognize and avoid poor thinking (like jumping to conclusions) and use their abilities to solve problems.

Title:

GATE: GIFTED AND TALENTED EDUCATION

School District:

East Ramapo Central

Grade Level(s):

1-6

Target Population:

Gifted

Contact Person:

Dr. Diane Gess
Coordinator of Special Projects
Office for Curriculum/Elementary
461 Viola Road
Spring Valley, New York 10977

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The GATE Program, with its Revolving Door Component, is a differentiated approach to the learning process. GATE students are led through levels of learning from exploratory experiences to independent study with emphasis on creative problem solving, thinking skills and investigations.

The goals of the East Ramapo GATE Program are to plan and implement a differentiated educational environment where academically gifted students will interact with their intellectual peers to develop the higher cognitive processes, to set up a responsive climate for the gifted and talented student which will be conducive to creativity, and to assist each participating GATE child in gaining a realistic and healthy concept of him/herself while developing responsibility for self and society.

Title:

GENERAL STUDIES PROGRAM

School District:

Plainedge Union Free

Grade Level(s):

7, 8

Target Population:

General

Contact Person:

Anthony Pellegrino
Principal
Packard Junior High School
Idaho Ave. and North Central Drive
North Massapequa, New York 11566

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single school building

Program Description:

The General Studies Program has four components: strategic reasoning, learning strategies, graphic study skills, and communication skills. Each study unit is approximately ten weeks long. First-year students learn an array of skills designed to improve study habits and develop critical thinking. Practice in applying cognitive strategies is integrated with content area learning. Second-year sequences reinforce skills and provide broader, more demanding applications for students.

Objectives are to improve thinking and reasoning abilities, develop decision-making processes, improve communication skills and processes, develop problem solving techniques, improve study skills, and develop organization and planning skills.

Lower functioning students in grades 7 and 8, comprising the lower third of the student body, are given the option of taking part in this program.

Title:

HUMANITIES HONORS

School District:

Mount Saint Mary Academy

Grade Level(s):

11-12

Target Population:

General
Gifted

Contact Person:

Sister Regina Murphy
Assistant Principal
3756 Delaware Avenue
Kenmore, New York 14217

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classroom

Program Description:

Humanities Honors is a semester, honors course open to juniors and seniors, and may be elected for English, social studies, or fine arts credit. Using the humanities disciplines -- history, literature, philosophy, ethics, and the arts -- this course investigates the nature of man, his ideas, relationships, values and creations. Some possible units are: Man As Tragic Hero, Man As Believer, Man As Creator, Man As Lover, Man As Comedian.

The goal is to better understand the nature of man. The emphasis is on the development of thinking skills rather than on the retention of data and on in-depth thinking, analysis and discussion rather than on lateral learning.

Title:

INSTRUMENTAL ENRICHMENT PROGRAM

School District:

New York City
Board of Education

Grade Level(s):

4-9

Target Population:

General
Gifted
Remedial
Handicapped

Contact Person:

Lawrence F. Larkin
Director, Office of Special Projects
New York City Board of Education
347 Baltic Street
Brooklyn, New York 11201

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Citywide program (38 schools)

Program Description:

Instrumental Enrichment, originally developed by psychologist Reuven Feuerstein, is designed to develop and improve the cognitive functions that are essential for efficient learning. Through an assessment of learning potential, Feuerstein identified impaired cognitive functions in the areas of gathering data (Input Level), using data and cues (Elaborational Level) and communicating final solutions (Output Level). He then developed a series of "instruments" that the student works through, with the assistance of the teacher, in order to improve deficient cognitive functions. The "instruments" are paper-pencil exercises that require the use of specific thinking skills and strategies. They are especially appropriate for adolescent students and can be bridged into any subject area. The great majority of teachers and supervisors involved report improvement in pupils' behavior, attendance, active participation and enthusiasm. Teachers also report changes in their methods and questioning techniques.

The program's goal is to render the individual able to perform as an independent learner by providing him or her with concepts, skills, strategies and techniques necessary. Among its many objectives are the arousal of motivation and insight, creation of good work habits and development of methods of gathering and elaborating information.

Title:

INTEGRATION OF SOCIAL STUDIES CONTENT AND PROBLEM SOLVING SKILLS

School District:

Niskayuna Central

Grade Level(s):

6-8

Target Population:

General

Contact Person:

Henry E. Mueller
Coordinator, Middle School Social Studies
Niskayuna Middle School
2495 Rosendale Road
Niskayuna, New York 12309

Disciplinary Focus:

Single discipline
(Social Studies)

Level of Implementation:

Single department

Program Description:

The problem solving skills model is based on a series of interlocking reading and writing subskills. The model includes four major components. Students are first taught to analyze social studies questions to demonstrate understanding. Students then learn to devise an organized form in which to record information. The third skill is gathering sufficient relevant information to answer social studies questions. Finally, the students are taught to report the information gathered in a factual summary or a persuasive essay. Integrating the model with content shows students that it is a useful research tool.

Through application of the skills model over a three-year, middle school experience, problem-solving skills become internalized by the students. The degree of independence from teacher instruction depends on student cognitive ability and level of abstract reasoning skills.

Every middle school student receives training in the problem solving skills model in heterogeneous classes. Different subskills are taught at appropriate grade levels.

Title:

INQUIRY DEMONSTRATION PROJECT

School District:

New York City
Multi-district (Citywide)

Grade Level(s):

9-12

Target Population:

General
Gifted
Remedial

Contact Person:

Ann Cook
Co-director
670 West End Avenue
New York, New York 10025

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Bronx Regional High School
Bronx High School of Science
Bowne High School
Erasmus Hall High School
Kennedy High School
Roosevelt High School
Satellite High School
Washington High School (West Side)

Program Description:

IDP is a curriculum and staff development project focusing on reasoning and problem solving skills in secondary schools. The project works in selected New York City High Schools including alternative, comprehensive and selective-entry schools. IDP focuses its efforts in the classroom, bringing together colleagues from all subject areas to focus on the development of critical thinking and reasoning skills within the subject disciplines. Regular meetings of participating school principals, program coordinators and teachers are sponsored by IDP which also services a network of teachers who meet in subject area clusters, school-based groups and city-wide sessions.

The project seeks to build networks within and between schools composed of teachers and principals committed to the development of strategies which emphasize the processing and synthesizing of information, rather than its acquisition. Inquiry courses seek to encourage students to examine a range of opinion, to analyze conflicting information, to question perceptions, to investigate where one's ideas come from and to reach independent judgments based on critical analysis. Underlying the process is a search for the genuine, rather than the rhetorical, questions which can be asked within each subject discipline.

Title:

INVADERS OF
THE MIND

School District:

Connetquot Central

Grade Level(s):

4-6

Target Population:

General
Gifted

Contact Person:

Richard Bernato
Curriculum Specialist
780 Ocean Avenue
Bohemia, New York 11716

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

This unit focuses on the processes by which people learn. Students discover the differences between "left brain" and "right brain" individuals to understand how the mind organizes information and forms concepts. Students also devise experiments, using the scientific method, to see how the senses contribute to the learning process.

This unit develops the following thinking skills: research and reporting, creative expression, creative problem solving, inquiry training and critical thinking.

Title:

INVENTION CONVENTION

School District:

Buffalo City

Grade Level(s):

K-12

Target Population:

General
Gifted
Handicapped

Contact Person:

Marion Vosburgh
Elementary Supervisor
Buffalo Public Schools
419 City Hall
Buffalo, New York 14202

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The Invention Convention is a program which provides teachers with a time-line and suggested activities for working with children, brainstorming needs and eliciting possible solutions. Children are encouraged to "dream-up" inventions and either draw a design or make a model of their idea. The children in the intermediate grades keep a folder concerning their invention that includes a picture and description of their work. The participation of parents is actively encouraged. All ideas are displayed as a culminating activity.

One goal of this program is to provide an opportunity for children of all ages and abilities to apply creative and critical thinking skills in carrying out a project. Another is to expose children to the patent process with younger children receiving certificates and older children applying for patents.

Title:

J.H.S. GIFTED PROGRAM - "DECISION MAKING"

School District:

Connetquot Central

Grade Level(s):

7-9

Target Population:

General
Gifted

Contact Person:

Richard Bernato
Language Arts/Social Studies
Curriculum Specialist
780 Ocean Avenue
Bohemia, New York 11716

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classroom

Program Description:

Students master the decision-making process by studying, recreating and evaluating up to 5 presidential decisions. The students go on to personalize decision making by developing their own interactive television videotapes; e.g., presenting scenarios, identifying choices and possible outcomes and allowing audiences to decide on the outcome of a given issue or problem.

The goals of this program are to have students analyze the components of a decision and to apply the decision-making model to the creation, writing and production of videotaped dramatizations of personal, historical or hypothetical decisions. This is accomplished by having students analyze presidential decisions, e.g., Louisiana Purchase, Fort Sumter, the 1902 Coal Strike, the Treaty of Versailles, and the Cuban Missile Crisis.

Gifted students in junior high school and students in regular classrooms have routinely participated in these activities.

Title:

LEARNING TO LEARN:
PARENTS & CHILDREN TOGETHER

School District:

Ilion Central
Herkimer Central

Grade Level(s):

7-12 students and their parents

Target Population:

General
Gifted

Contact Person:

Grace Osborne
Teacher/Coordinator
Enrichment Learning Program
Ilion Central School
Weber Avenue
Ilion, New York 13357

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Evening program involving
two neighboring districts

Program Description:

Students and their parents work in several disciplines to "learn how to learn" psychology, philosophy, literature, film and art. Using community support and speakers from a local community college, students and parents work with critical thinking skills across these disciplines. For example, in psychology, the psychologist uses some projective testing techniques and has parents and students predict and analyze their results. In literature, they read and participate in literary criticism done on a college level; comparing treatment of teenagers in Updike and Faulkner and comparing a videotape to the text of a story. In film study and art, they learn how to learn from the visual form - how symbols are derived, how artists communicate. These monthly meetings are drawn together by the college personnel attending other sessions. An attempt is made by the facilitators to draw the disciplines together, illustrating that philosophers and psychologists use similar reasoning patterns as artists and writers but for different purposes.

In each of the content areas, a practitioner or specialist willing to give time and energy to the project session or sessions is vital. Since many of the activities are hands-on, a source of funding is needed to duplicate materials, rent films.

The goals and objectives of this program are to bring parents and their children together as learners to establish a base for communication beyond the family; to have parents and students see other parents and their children who are trying to communicate and think critically; to bridge the gap between subject areas and to illustrate that thinking in various disciplines makes use of basic skills of observation and inference; and to have the group actively participate in learning in ways specialists do in their chosen fields.

Title:

THE LITERATURE CLUB

School District:

Syracuse City

Grade Level(s):

4-6

Target Population:

General
Gifted

Contact Person:

Sharon Royce
Library Media Specialist
Dr. Weeks Elementary School
710 Hawley Avenue
Syracuse, New York 13203

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single school building

Program Description:

The students meet twice weekly to read and analyze different types of literature including novels, poetry, tall tales, short stories and historical fiction. The students discuss characterization, setting, plot and compare and contrast the different pieces they read. They also give oral talks and presentations to persuade others to read their works.

Students increase their self confidence using this program. The students critically evaluate written work produced by themselves as well as noted authors and evaluate the attributes of a piece of literature. They also analyze new literature to see if it contains the necessary attributes. The program is for high achieving 4th through 6th grade students.

Title:

MASTERY LEARNING
IN ELEMENTARY AND JUNIOR
HIGH SCHOOLS

School District:

New York City
Board of Education

Grade Level(s):

3-9

Target Population:

General
Gifted
Remedial
Handicapped

Contact Person:

Louis R. Leonini
Coordinator
347 Baltic Street
Room 206
Brooklyn, New York 11201

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Three (3) community school districts

Program Description:

This training program assists teachers in understanding and implementing the Mastery Learning Approach. Teachers are taught skills, knowledges and techniques relating to Mastery Learning theory and practice including test development and use, student assessment and grouping, curriculum alternatives and the use of Bloom's Taxonomy.

Teachers become familiar with Mastery Learning practices and implement them with students in their classes.

Title:

MATHEMATICS K-8

School District:

Yonkers City

Grade Level(s):

K-8

Target Population:

General

Contact Person:

Dr. Joseph E. Donohue
Assistant Superintendent of
Instruction
145 Palmer Road
Yonkers, New York 10701

Disciplinary Focus:

Single discipline
(Mathematics)

Level of Implementation:

Districtwide

Program Description:

Supplements in the form of activity packets which focus on critical thinking/ problem solving skills have been developed by the Yonkers City Schools. These complement the K-8 Yonkers Mathematics Curriculum Guides.

Objectives are to develop, reinforce and maintain critical thinking/problem solving skills and to use thinking skills such as analyzing, observing, sequencing, inferring, classifying and categorizing.

Title:

MIDDLE SCHOOL SPECIAL PROJECTS PROGRAM

School District:

Niskayuna Central

Grade Level(s):

6-8

Target Population:

General

Contact Person:

Teresa L. Kingsland
Niskayuna Middle School
Rosendale Road
Schenectady, New York 12309

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single school building

Program Description:

In the fall, teachers in the academic classrooms teach content area lessons using a creative problem solving model. Academic lessons are taught in social studies, mathematics, English, and science with an emphasis on relationships among the academic content areas. For the remainder of the year, identified gifted students are given the opportunity to choose topics of interest to them. Each project is approached in a creative problem solving format, and each student is instructed in the interdisciplinary nature of his/her problem. Teachers as well as community members having expertise in the content areas are used as mentors for the project.

This program provides challenge to gifted students, experience in creative problem solving and application of academic content to an interdisciplinary problem.

The student is able to identify an area for further investigation and format investigative questions and a plan for that investigation; s/he uses analytical thinking to recognize significant, insignificant and gaps in information, and uses appropriate methods to gather information (e.g., experimentation, interview and library research); s/he applies academic content to the solution of a problem and synthesizes information into a unique product.

Title:

MODEL FOR DIFFERENTIATING CURR. IN REGULAR CLASSROOM

School District:

Greenburgh Central

Grade Level(s):

2-6

Target Population:

General
Gifted

Contact Person:

Judi Sternberg
Gifted & Talented Facilitator
Greenburgh Central School District #7
475 W. Hartsdale Avenue
Hartsdale, New York 10530

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classrooms in three elementary schools

Program Description:

Through cooperative planning and instruction, teachers provide assignments requiring higher level thinking skills, such as analysis, synthesis and evaluation. Students are encouraged to respond to open-ended questions and choose project options which stimulate their abilities.

The program provides strategies to teachers, grades 2 to 6, to permit differentiation of the curriculum in content areas for gifted students in the regular classroom.

Title:

THE P.S. 126 PROCESS:
STEPS TO CLEAR THINKING
ONE TO SIX

School District:

New York City
District 9 (Bronx)

Grade Level(s):

K, 3-6

Target Population:

General
Gifted
Remedial
Handicapped

Contact Person:

Dr. Marjorie Dunbar
Principal
P.S. 126
175 West 166th Street
Bronx, New York 10452

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single school building

Program Description:

The process to clear thinking comprises six steps. The program enhances the structured learning environment by teaching children to process any and all information in a systematic, self-monitored way.

The program expands the schooling experience to include all of the children's waking day, including television programs, trips, social events and curricular areas.

The goals of the program are to teach students to learn to observe and to remember, to learn to classify and to group, to set up an hypothesis, to test the hypothesis, to generalize and to make up a rule, and to go back to previous steps if the result is not valid.

A rigorous staff development component is required to implement the program. Materials are needed to demonstrate the concepts directly related to the objectives. The younger the students the more colorful and meaningful the materials must be.

Title:

PROGRAM FOR
THE GIFTED

School District:

New York City
District 18 (Brooklyn)

Grade Level(s):

K-9

Target Population:

Gifted

Contact Person:

Phyllis Gonon
Director of Educational Programs
Amy Kargman
Acting Coordinator of
Gifted Programs
Community School District 18
755 E. 100 Street
Brooklyn, New York 11236

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Public Schools 114, 115, 208, 272, 276, 279 and Junior High School 68

Program Description:

The gifted program offers the academically gifted child many opportunities to think critically and solve problems. The program emphasizes the development of students' fluency, flexibility, originality, elaboration, risk taking and critical, higher-level thinking.

The goal of the program is to help each child develop in terms of his/her potential.

Title:

PROJECT BEYOND

School District:

Syosset Central

Grade Level(s):

K-6

Target Population:

Gifted

Contact Person:

Dorothy Schorr
Teacher/Gifted
Instructional Materials Center
Jericho Turnpike
Woodbury, New York 11797

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

Project Beyond is a comprehensive, pull-out program with a qualitatively differentiated curriculum that focuses on creativity and higher-level cognitive thinking skills.

The goals are to challenge and stimulate gifted children in grades K-6 to learn through differentiated instruction at the peak of their capacity.

A resource room in each school houses specialized curriculum materials and staff.

Title:

PROMOTING CREATIVE THINKING SKILLS IN KINDERGARTEN CHILDREN

School District:

Lawrence Union Free

Grade Level(s):

K

Target Population:

General

Contact Person:

Dr. Sheila Terens
Principal
Number Four School
Lawrence Public Schools
Wanser Avenue
Inwood, New York 11696

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Early Childhood Center

Program Description:

Children are engaged in activities integrated throughout the early childhood curriculum and program including: computer readiness, graphing, cooking, personal safety, environmental education and class meetings designed for planning, review and evaluation of the day's events.

The goal of this program is to enable children to think in an organized and creative fashion by collecting data, analyzing the information and developing varied solutions and strategies in problem solving situations.

Title:

THE REASONING SKILLS APPROACH TO PROBLEM SOLVING - A "HEADS OFF" "HANDS-ON" METHODOLOGY FOR INFUSING THINKING SKILLS ACROSS THE CURRICULUM

School District:

New York City
District 20 (Brooklyn)

Grade Level(s):

K-12

Target Population:

General
Gifted
Remedial

Contact Person:

Rose Reissman
Ditmas Junior High 62
Ditmas Writing Institute
27 East 94th Street
New York, New York 10128

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Schoolwide

Program Description:

The Reasoning Skills Approach to Problem Solving uses verbal and visual mysteries as a motivator. Through the "you are the detective" strategy, students are routinely involved in solving cases which train and enhance their reasoning ability. This approach stimulates the following cognitive skills: critical thinking, inferential and deductive reasoning, lateral thinking, sequential ordering, semantic perceptions, cause and effect analysis, and problem solving. The program also uses premises, poetry, drawing and improvising to motivate thinking.

Students approach problems in a lateral vein and learn how to perceive many possible solutions to a particular problem. Students' visual acuity is sharpened and their ability to assimilate details and connect them in logical ways is enhanced. Students can create sequentially correct and semantically sensible narratives derived from a given set of details. Students can use these abilities in thinking about and analyzing news/history events.

The program can be incorporated in grades K-12 for average, gifted and remedial students. It is also a way of motivating and involving ESL students.

Title:

RELIVING SOCIAL
STUDIES THROUGH MICROFILM

School District:

Rome City

Grade Level(s):

6

Target Population:

General

Contact Person:

George Di Fabio
Teacher - 6th Grade
Stokes School
Turin Road
Rome, New York 13440

Disciplinary Focus:

Interdisciplinary
Social studies
Language arts

Level of Implementation:

Single classroom

Program Description:

The children use old local newspapers, via microfilm, to develop many concepts that focus primarily on social studies. Each child can reach his/her level of competency and pursue his/her particular interest. The methodology centers on an approach that guides children in getting the facts, drawing conclusions and making applications.

The goal in part is to go "beyond the textbook" primarily in the area of social studies. The program uses an interdisciplinary approach. In so doing, it gives elementary school children the opportunity to use their skills, creative energy and abilities to develop perspectives in problem solving.

This program can be pursued with a microfilm reader and microfilm of local newspapers. The classroom teacher can accomplish the stated goals within the classroom.

Title:

SCIENCE: MANKIND'S CONTINUING SEARCH FOR SOLUTIONS

School District:

Seaford Union Free

Grade Level(s):

7-8

Target Population:

Gifted

Contact Person:

Maryalice Gutierrez
Assistant Superintendent in Charge of Curriculum
Seaford School District
1600 Washington Avenue
Seaford, New York 11783

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classroom

Program Description:

The major purpose of the program is to develop problem solving skills, not science content. The program is based on the concept that learning is an active process and the more a person is involved in the learning situation, the more effective is the learning that takes place. Therefore, the emphasis of the program is to have the student enter into learning situations (activities) where he/she must solve problems by employing various learning techniques. In many of the activities, the student enters into simulation or role-playing situations and, by solving the problem, learns for himself/herself the "rules".

The major objectives are to have the student develop an appreciation and preference for scientific attitudes and values, an understanding that learning and problem solving are "tools" for survival, and an appreciation and preference for the concept that the better one thinks, the better are the chances for survival. The use of effective and appropriate problem solving techniques is central to the program.

Title:

SEE THROUGH
THE LENS

School District:

Hempstead Union Free

Grade Level(s):

4

Target Population:

General

Contact Person:

Marguerite Rhodes
Principal
Washington School
270 Washington Street
Hempstead, New York 11550

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Three classrooms

Program Description:

Fourth-grade students learn the care and use of a camera and are specifically guided to record in pictures and words certain concepts presented by the teacher. Various curriculum areas provide the topics for a photographic essay culminating in a personal album. The camera provides a hands-on activity that engages the student's attention and gives a sense of unity to his/her learning.

The fourth grade was chosen for this project since there is often a noticeable decline in scores of standardized tests and general interest in learning.

Title:

SPECIAL PROJECTS PROGRAM, ELEM. LEVEL

School District:

Niskayuna Central

Grade Level(s):

1-5

Target Population:

Gifted

Contact Person:

Randee Adler
Special Projects Teacher
Craig School
2566 Balltown Road
Schenectady, New York 12309

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The Special Projects Program is a systematic, differentiated program of instruction based upon the intersection of content, process (cognitive and creative thinking skills) and product. It uses both student interest and unique curricula to expand the skills, interests and knowledge of the gifted elementary student. It is organized as a supplemental, pull-out program, with students in grade groupings (maximum of 10) meeting in a resource room setting for 2½ hours per week.

Students participating in the program will grow in the use and application of higher-level thinking skills, creative thinking skills and organizational and research skills; will have the opportunity to develop special abilities, interests and leadership skills; will produce knowledge by creating learning products to be shared with others.

Title:

SPICE: A PROBLEM SOLVING APPROACH

School District:

Rochester City

Grade Level(s):

K-6

Target Population:

General

Contact Person:

Anthony Giannavola
Curriculum Coordinator
Magnet Schools
131 West Broad Street
Rochester, New York 14608

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Districtwide

Program Description:

The SPICE presentation format serves as a problem solving model for students. By following the five stages of the lesson, i.e., situation, prediction, investigation, collection and evaluation, the student is provided a logical problem solving format as well as a means of achieving the content objectives.

The purpose of the SPICE program is to provide a problem solving technique which is applicable to all problem situations for which there is no obvious solution. SPICE has been adapted to the Probability/Statistics and Metrics strands of the New York State Mathematics Syllabus and other curricular areas.

The program is applicable to students of all achievement levels. The sophistication of the problem situation varies according to student ability. In-service for teachers is key to the program, though specialization is not required.

Title:

STRATEGIC REASONING

School District:

New York City
Benjamin Cardozo High School
(Queens)

Grade Level(s):

9

Target Population:

Remedial

Contact Person:

John Walsh
A.P./Supervisor English
57-00 223 Street
Bayside, New York 11364

Disciplinary Focus:

Single discipline
(English)

Level of Implementation:

Single classroom

Program Description:

The program is built around six universal thinking skills: qualification, classification, structure analysis, operation analysis, analogy, and thing making. Students are trained in logical processes of thinking, starting with non-academic material and transferring them to academic reading skills.

The purposes of the program are to improve the students' ability to reason analytically, to think critically in all areas, to make decisions and to deal with complex information.

Title:

TACS - THINKING
AND COMPREHENSION

School District:

Yonkers City

Grade Level(s):

1-8

Target Population:

Remedial
Handicapped

Contact Person:

Florence L. Reiser
Reading Specialist
School #5
Lockwood Avenue
Yonkers, New York 10701

Disciplinary Focus:

Single discipline
(Reading)

Level of Implementation:

Single classroom

Program Description:

The materials used are primarily in the content area. Students' vocabulary and knowledge of the subject are determined through discussion. Concepts are developed as necessary. Written material is then introduced. Questions and projects are assigned in degrees of difficulty.

The goals are to focus on thinking and comprehension skills necessary for success in all curriculum areas and to teach different levels of understanding, recall, analysis, synthesis and evaluation according to Bloom's Taxonomy.

The target population consists of students in grades 1-8 who meet the following criteria: scoring at/or below the 23rd percentile on a nationally standardized test; scoring below the State Reference Point on New York State Reading test in Grades 3, 6 or 8; teacher judgment.

Title:

TALENTS UNLIMITED

School District:

Cayuga-Onondaga BOCES

Grade Level(s):

K-12

Target Population:

Gifted
General
Remedial
Handicapped

Contact Person:

Robert E. Molinaro
Project Director
Teacher Center Director
Cayuga-Onondaga BOCES
309 West Genesee Street
Auburn, New York 13021

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Nationally - 4,500 schools

Program Description:

Talents Unlimited is an infusion process employed by teachers to facilitate cognitive attributes of fluency, flexibility, originality and elaboration in all curricular areas of school and life-related situations. The five Talent areas addressed are Productive Thinking, Communication, Forecasting, Planning and Decision Making (all life-related talents).

The Talents Unlimited teacher training project helps teachers to resolve competency issues and attend to each student's need to participate in higher-level thinking strategies while enriching the academic development in every child. The Multiple Talent Process approach ensures that all students are involved cognitively and affectively in the classroom. This process aids teachers in their quest for excellence for every individual.

Originally the Talents Unlimited program was targeted for gifted students, but with use and time, it was discovered that all students could benefit from the infusion of these life-related thinking skills.

This program is appropriate for a teacher who is searching for process approach to teaching thinking. The process lends itself to any textbook series or teaching style.

Title:

TEACHING THINKING SKILLS
TO HANDICAPPED JUNIOR HIGH
SCHOOL STUDENTS

School District:

Spackenkill Union Free

Grade Level(s):

7-8

Target Population:

Handicapped

Contact Person:

Jan Volpe
Resource Room Teacher
Orville A. Todd Junior High School
11 Croft Road
Poughkeepsie, New York 12603

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classroom

Program Description:

This is an eclectic approach to improving thinking/reasoning skills using, as a theoretical base, the works of Guilford, Whimbey, Harnadek, Kohlberg, Epstein, de Bono, Piaget, Taba, Torrance and Bloom. Individualized Education Program goals and objectives are designed to meet student needs. Skills are taught in small groups and practiced individually and/or with peers.

The goals of this program are to improve students' ability to manage resources such as time, personal strengths and reference materials; to articulate ideas clearly and coherently; to plan and use an organized process to direct thinking; and to increase confidence and flexible thinking.

Title:

THINKING SKILLS USED
TO UNDERSTAND CITIZENSHIP

School District:

Diocese of Syracuse

Grade Level(s):

3-4

Target Population:

Gifted

Contact Person:

Gloria Young
Fourth Grade Teacher
St. Ann's School
4471 Onondaga Boulevard
Syracuse, New York 13219

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single classroom

Program Description:

Involvement of students in various activities such as research, role playing, surveys and group discussions provides situations for students to develop thinking processes and skills through higher-level questioning.

Objectives are divided into four categories: Cognitive, Affective, Thinking Skills, Student. These objectives are aimed specifically at developing and increasing the students' understanding of citizenship.

General class and gifted students at the third or fourth grade level are the target population.

Title:

UNITS ON VISUAL LITERACY: CRITICAL THINKING IN ART AND ADVERTISING

School District:

Ilion Central

Grade Level(s):

3-6

Target Population:

Gifted

Contact Person:

Grace Osborne
Enrichment Learning Program
Teacher/Coordinator
Ilion Central School
Ilion, New York 13357

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Grades 3-6 in two buildings

Program Description:

As an introduction to the use of television production and video skills, students in Ilion's Enrichment Learning Program, grades 3-6, work on what a picture/photograph means. Using transparencies of Brueghel's Wedding Feast, Children's Games, etc., the teacher asks students to write hypotheses about various aspects of the painting and how the child "knows" or "thinks" this is so: what are interior clues and what resident knowledge can be applied; what is actual, what is inferential. Students then look at other art work -- portraits. They compare and contrast use of positions, wardrobe, background to see how the artist portrays a person. They use Anno's books to discover illusions and allusions. They then move to photography (use of 1900 - 1950 photography, Jacob Reiis, etc.) to see how it communicates; they compare and contrast painted portraits and portrait photography. They then move to still advertising photography and what it "means" and "manipulates". Finally, they move to television commercials and the additional tension created by cutting and action.

The goals and objectives are to have students become better observers, to have them note detail and use their experiences in learning to relate to apparently disparate areas of visual production, and to have them use critical thinking skills to see how a visual medium can make the "picture worth more than a thousand words."

The target population is gifted/talented students who are academically or intellectually able or potentially so; these areas are not usually covered in grades 3-6 and are often delayed until college level art history or media courses.

Title:

THE USE OF CONTRACTS AS AN EFFECTIVE TEACHING TECHNIQUE

School District:

Diocese of Rockville Centre

Grade Level(s):

6

Target Population:

General

Contact Person:

Rosemary Bernstein
Sixth Grade Teacher
12 Westminster Road
West Hempstead, New York 11552

Disciplinary Focus:

Single discipline
(Social studies)

Level of Implementation:

Single school building

Program Description:

Contract learning in the sixth grade is achieved by teacher lectures to large groups to give an overview of the topic. The next step is completion of contracts as students work on objectives and activities to develop thinking and research skills and responsibility in meeting deadlines. In small group activities students learn communication skills and decision making. A diagnostic test measures students' acquired knowledge. This approach is based on the belief that each student is an individual who has the right to receive instruction geared to his/her level, needs and interests and that learning should be fun. It incorporates the idea that children are independent people capable of making choices, getting along with peers and accepting responsibility. The classroom should be an active center for sharing, exploring and learning.

Gifted, average and learning disabled students use this tool.

Title:

USING YOUR NOGGIN

School District:

East Islip Union Free

Grade Level(s):

7

Target Population:

General
Handicapped

Contact Person:

Beatrice Buxton
Home Economics Teacher
East Islip Junior High School
Wantagh Avenue
Islip Terrace, New York 11752

Disciplinary Focus:

Interdisciplinary

Level of Implementation:

Single school building

Program Description:

Students are taught steps in "Decision Making" and "Problem Solving" by hands-on experiences that are practical and relevant to seventh graders' lives. Some of these experiences include working with limited resources, using values and goals, and dealing with personal, family and nutrition management.

The goals of this program are to teach students to think critically by applying problem solving and decision making skills to all facets of life and to have students become aware that problem solving is a systematic, sequential and learned process.

The entire seventh grade population is involved in this program.

This program is taught in a home economics laboratory using staff and parents as resource people.

Title:

UTILIZING REASONING/
THINKING IN SCIENCE

School District:

Yonkers City

Grade Level(s):

7-12

Target Population:

General
Gifted
Remedial

Contact Person:

Dr. Joseph Donohue
Assistant Superintendent of
Instruction
Yonkers Public Schools
145 Palmer Road
Yonkers, New York 10701

Disciplinary Focus:

Single discipline
(Science)

Level of Implementation:

Districtwide

Program Description:

Generalized reasoning and thinking competencies are applied to specific concepts and principles of science. In addition, science inquiry skills are incorporated within the thinking competencies developed in the program. The program involves developing teacher independence in the application of reasoning and thinking competencies for construction of inquiry-based science activities and worksheets.

Objectives include developing teacher independence in using process skills for communicating science concepts, as well as including thinking and reasoning skills, and improving communication skills among secondary school students.

Title:

YOUNG INVENTORS WORKSHOP

School District:

New York City Teacher Centers Consortium

Grade Level(s):

K-6

Target Population:

K-6 teachers

Contact Person:

Clare Cohen
Assistant Director
NYC Teacher Centers
48 E. 21st Street
New York, New York 10010

Disciplinary Focus:

Single discipline
(Science)

Level of Implementation:

Teacher Center Workshop

Program Description:

This staff development project provides elementary school teachers with strategies to foster inventive and creative thinking in their classrooms. It focuses on the areas of science and invention, emphasizing visual thinking and inventive thinking through the investigation of real problems. Through a variety of classroom projects and instructional approaches introduced by Teacher Center staff, teachers learn to incorporate the active imaginations of their students into the regular elementary science curriculum by involving children in the construction of an original invention or scientific device.

The inventive projects enable youngsters to express themselves through creative drawing as well as creative thinking and writing, to better understand technology and to achieve a heightened awareness of their own role in the process of scientific inquiry and creative problem solving. The "Young Inventors" project encourages teachers to teach creative thinking and problem solving skills in a real context.